

ABSTRACT OF THE DISCLOSURE

A combination gravimetric and volumetric fluid dispenser is disclosed which includes a scale linked to a controller. The controller is linked to a plurality of two stage valves which control the dispensing of large quantities of base materials. The
5 controller is also linked to a plurality of nutating pumps which together with the controller controls the dispensing of smaller quantities of additive materials. The dispensing system disclosed is particularly useful for paints or other liquid formulations where larger quantities of base materials are added and which can be added by weight and whereby precise measurements of the larger base materials is not
10 particularly required. However, the incorporation of nutating pumps and the addition of smaller amounts of additives by volume using the nutating pumps enables precise dispensing of the additives, such as colorants for paint. The larger containers or reservoirs of base material may be disposed at a remote location from the dispensing apparatus. The dispensing apparatus is also preferably designed with a modular
15 configuration as shown and described. For viscous materials, an improved dispensing method is disclosed whereby viscous base material is added to the container first followed by smaller amounts of additives followed by additional dispensing of viscous base materials. By sandwiching the smaller amounts of additives between layers of base materials, an improved mix ability results for viscous materials such as
20 base materials of paints and colorants.